

# Engaging Medical Students in Research or Scholarly Activities as Part of the Curriculum at Indiana University

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## Abstract

Medical education has evolved and progressed within the last several decades. The value and awareness of incorporating research or scholarly experiences have increased among medical schools. First, there is a need to grow the cadre of physician-scientists in order to continue the biomedical research and translation of the findings into the clinical settings. Additionally, integrating research in the curriculum will enhance the medical student's preparedness for a medical career because critical and analytical thinking skills are essential to build evidence-base medicine for clinical practice. To expand student engagement in research at Indiana University School of Medicine (IUSM), the leaders developed the Indiana University Medical Student Program for Research and Scholarship (IMPRS). Since its inception, IMPRS has provided a wide breadth of opportunities in laboratory/translational research, clinical research, health research outcomes and community health research and education. Because it is vital to have the infrastructure and process to provide the opportunities, we further developed a formal office that offers year-round advising and resources for medical student research and scholarship. By showcasing the organization and process of IMPRS, we demonstrate the increase number of student's interest to participate in research as well as the outcomes from the experiences.

## Mission

The mission of IMPRS is to provide a diverse array of research and scholarly options for the IUSM student community and to enrich the research and scholarly education.

## Goals

- To provide a diverse array of research and scholarly opportunities to enrich the research and experiential education for all IU School of Medicine medical students.
- Enhance intellectual inquisitiveness.
- Foster an environment of scholarly endeavors.
- Support excellence in the development of physicians, physician-scientists, educators and investigators.

## The Office of IMPRS

The Indiana University Medical Student Program for Research and Scholarship (IMPRS) is IU School of Medicine's official office for medical student research. Whether it's helping students get involved in paid summer research opportunities in Indiana between the first and second year of medical training or providing students grants and one-on-one advising for international research opportunities, IMPRS is the hub for all medical student research opportunities and support in Indiana and beyond.

## Services

- Student research advising
- Facilitating mentor-student connections
- Student research funding

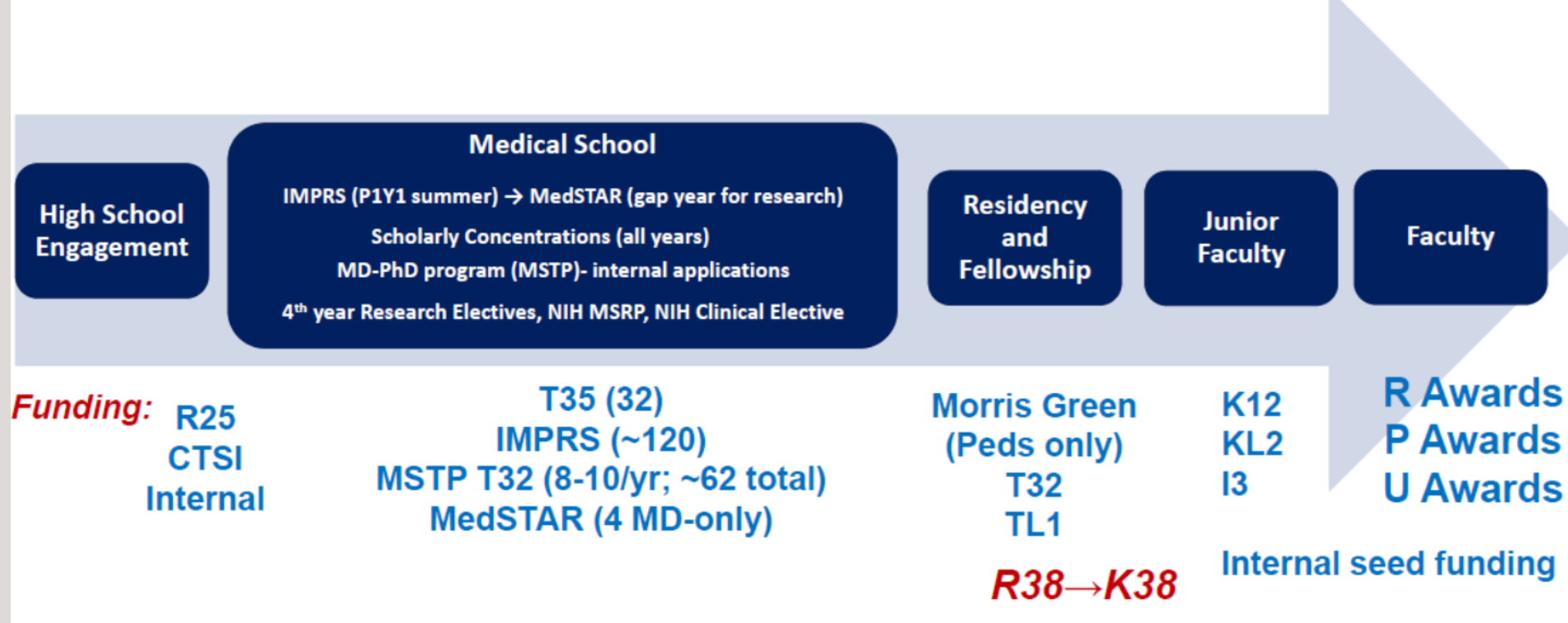
## Research Areas

- Translational Laboratory Sciences
- Clinical and Translational Research (Emergency Medicine, Gastroenterology, Pediatrics, Radiology/Imaging Sciences, Surgery and Obstetric/Gynecology)
- Health Research Outcomes and Services (Implementation Science, Computational Biology, Medical Informatics)
- Community Health Education and Engagement

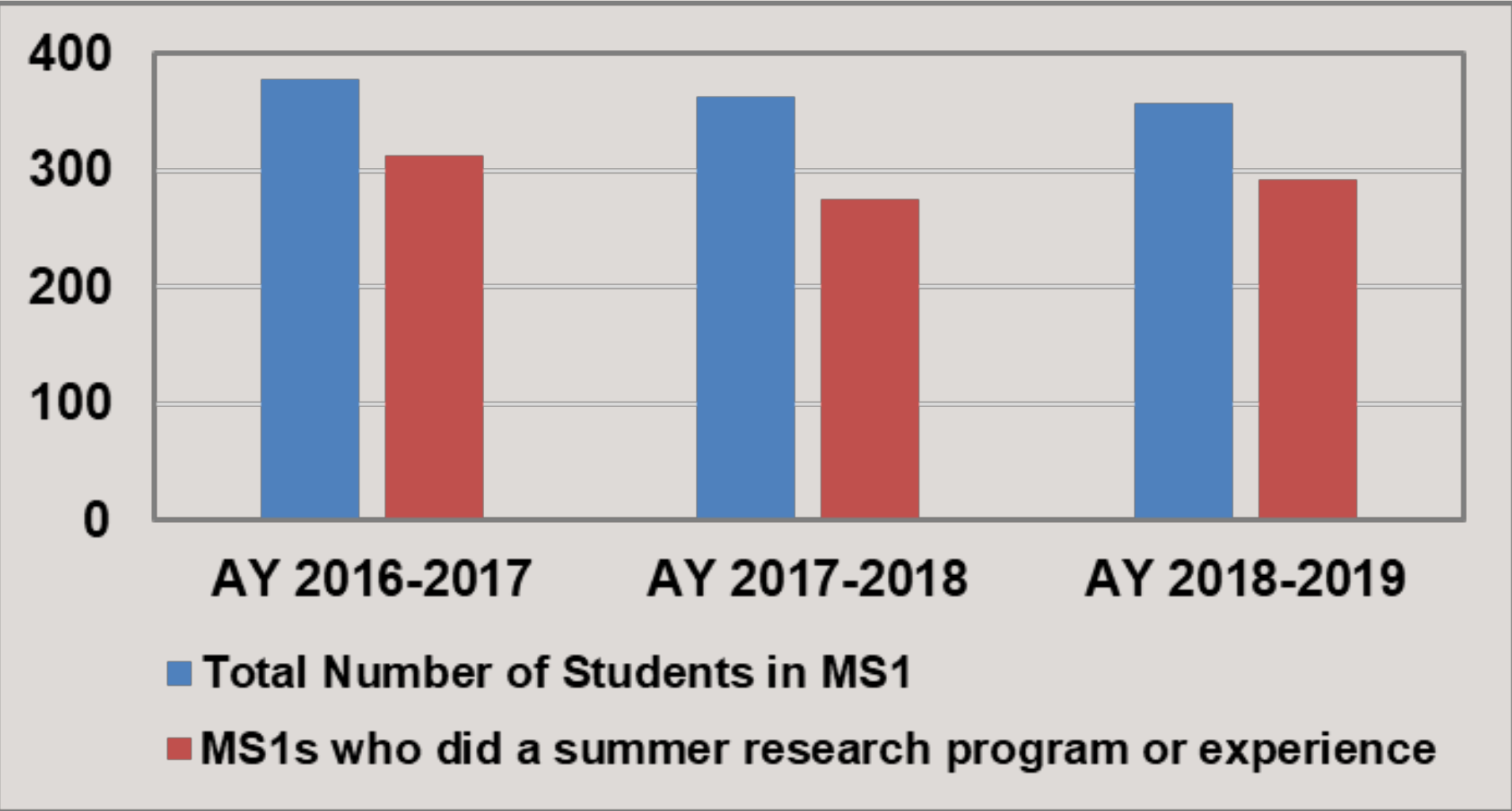
## Summer Requirements

- Full-time commitment (40 hours per week for 10 weeks)
- Completion of all program-defined trainings
- Conduct outside-of-lab reading and assignments
- Meet weekly with mentor
- Attendance at weekly seminar series
- Final abstract submission
- Poster presentation

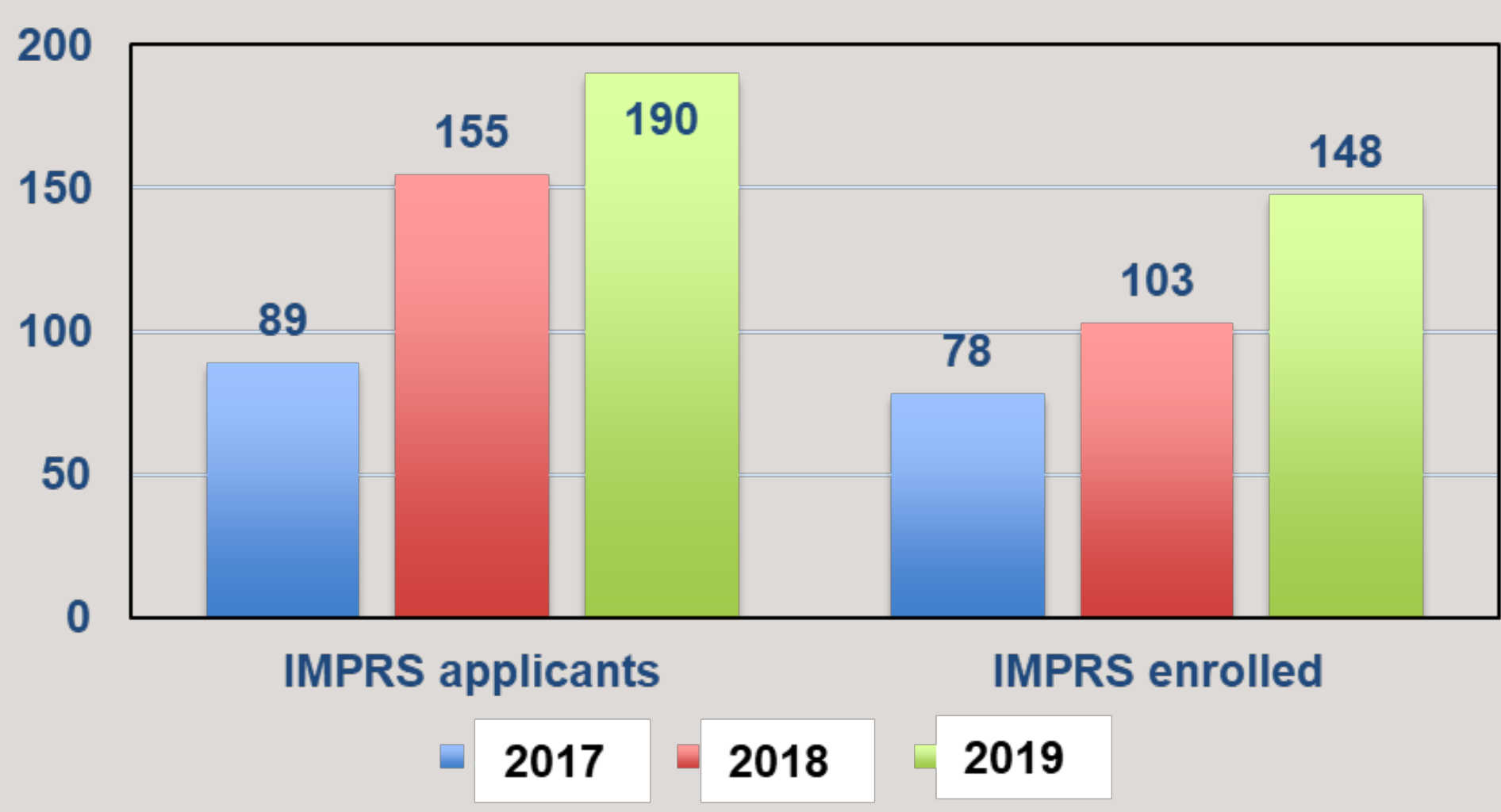
### The IUSM Pipeline for Physician Scientist Development



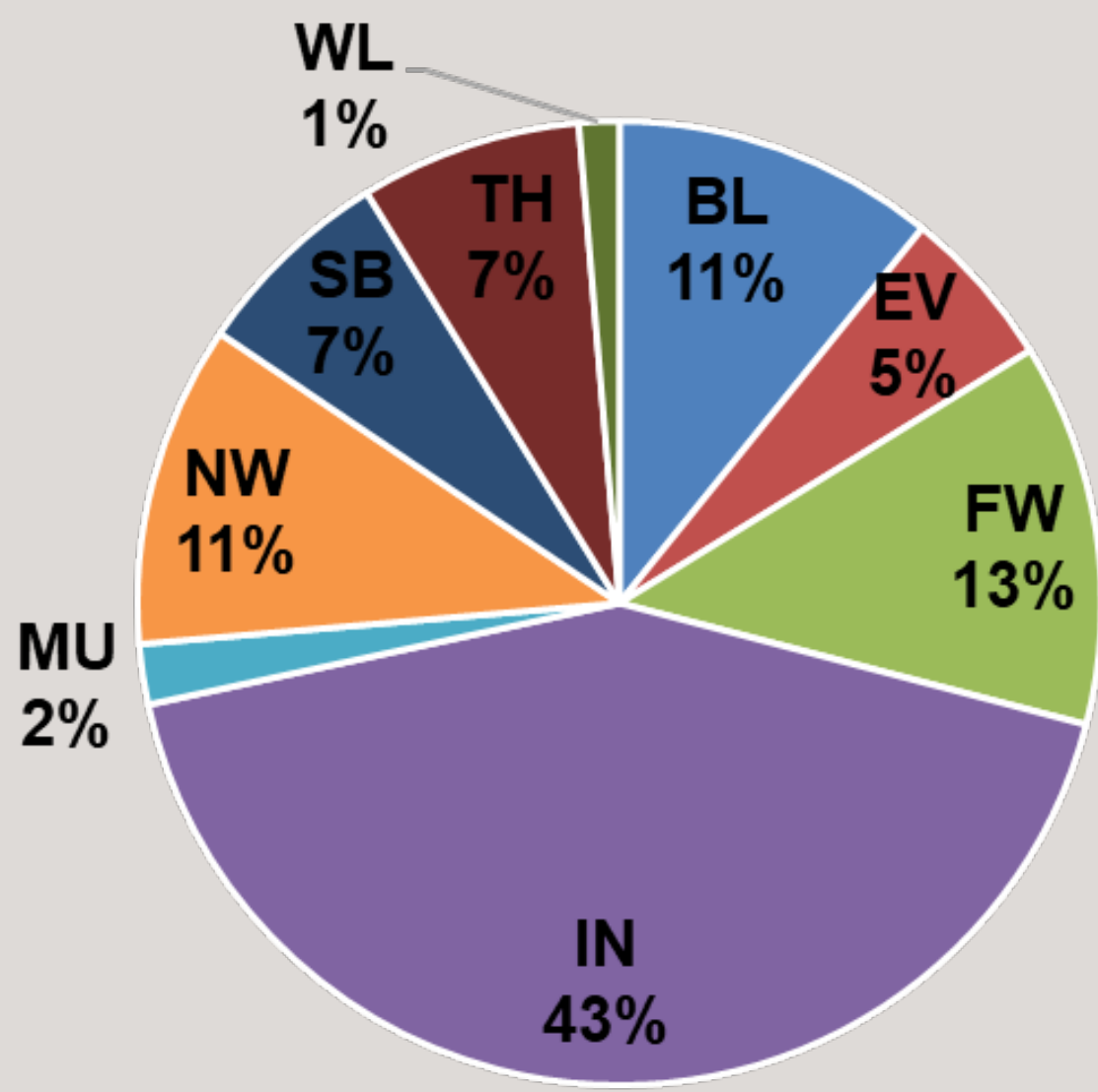
## Trend of Summer Research and Scholarship Experiences



## IMPRS Summer Research Program



## IMPRS Campus Representation



## Proceedings of IMPRS

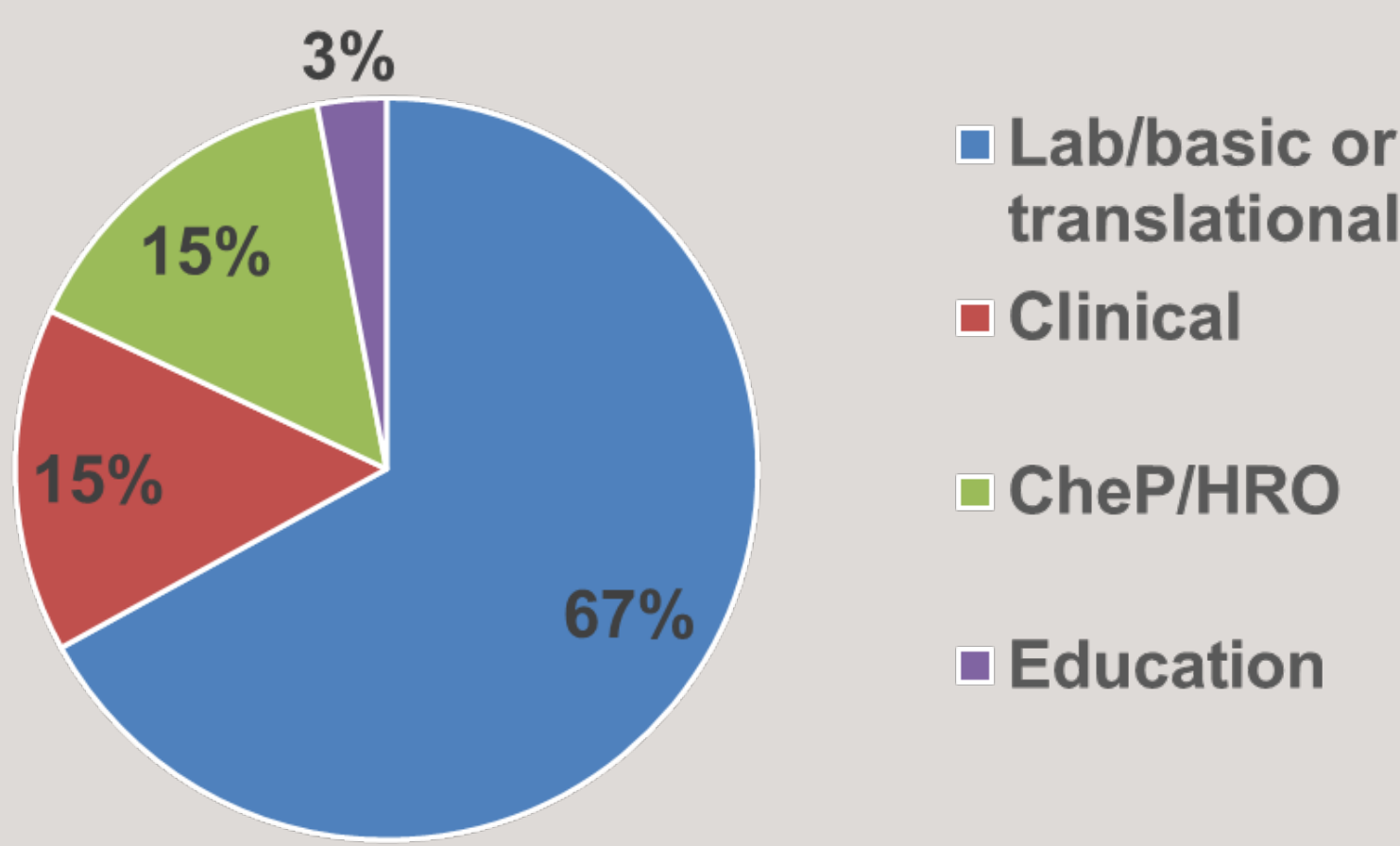
- Goal: To create a digital version of the research outputs (i.e., abstracts) from the IMPRS and summer research programs.
- Collaboration between IMPRS sponsor groups, IUSM Medical Library, and IUPUI University Library
  - Selected [IUPUI open access journal system](https://journals.iupui.edu/index.php/IMPRS/issue/archive) as the platform to host abstracts
    - Potentially could host other content from IMPRS/summer research programs (e.g., posters, presentations)
  - Developed an "authors agreement" for IMPRS students and mentors to:
    - Obtain permission to publish abstract
    - Inform about authors rights (i.e., retention of rights)

<https://journals.iupui.edu/index.php/IMPRS/issue/archive>

## IMPRS Summer Program Benefits

- Hands-on research and/or clinical experiences.
- Membership in a cohort of peers committed to research exploration.
- Coaching, mentoring and advising support from IMPRS faculty and staff.
- Professional development seminars that expand knowledge of research and clinical disciplines.
- Networking opportunities.
- Presentation and publication opportunities.

## Representation of 2019 IMPRS-SRP Poster Symposia



## IMPRS Program Leadership

Anantha Shekhar, MD, PhD  
Executive Associate Dean, Research Affairs

Brittney-Shea Herbert, PhD  
Co-Director, IMPRS SRP

Robert Considine, PhD  
Co-Director, IMPRS SRP

Anne Nguyen, BSC, CCRP  
Program Manager

Advisory Board: IUSM Student Research Committee Members

## Indiana Medical Student Program for Research and Scholarships (IMPRS)



Indiana Medical Student Program  
for Research and Scholarships (IMPRS)  
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